

What Is Claimed Is:

1. An automatic transaction apparatus for communicating with a host and performing a transaction operation according to the operation of a customer, comprising:

a plurality of I/O units for performing said transaction operation; and

a control unit for controlling said I/O unit according to transaction control signals from said host,

wherein said control unit comprises:

a middleware layer for operating control of a kernel and controlling said I/O unit;

a parameter file for storing parameters for converting transaction control signals specified by an interface with said host into transaction control signals specific to said middleware layer; and

an I/O control layer for converting the transaction control signals specified by the interface with said host into the transaction control signals specific to said middleware layer, referring to said parameter file, and operating said middleware layer.

2. The automatic transaction apparatus according to Claim 1, wherein said I/O control layer further comprises a plurality of I/O control libraries corresponding to each of said plurality of I/O units,

and wherein said I/O control layer calls up said I/O control library according to the transaction control signals from said host, reads parameters corresponding to said I/O control library from said parameter file, edits the  
5 parameters to the transaction control signals specific to said middleware layer, and operates said middleware layer.

3. The automatic transaction apparatus according to Claim 1, wherein said middleware layer comprises:

10 an I/O client layer for intermediating the transaction control signals to said I/O unit;

an I/O server layer for starting and ending of an I/O operation and controlling the communication protocol by the transaction control signals of said I/O client layer; and

15 an I/O service provider layer for converting messages with each of said I/O units.

4. The automatic transaction apparatus according to Claim 1, wherein said plurality of I/O units are a plurality  
20 of I/O units which implement cash transactions based on said operation of the customer.

5. The automatic transaction apparatus according to Claim 1, wherein said I/O control layer receives the  
25 transaction control signals from said host which follows the cash transaction sequence specified by said customer, operates said I/O unit, and returns a reply to said host.

6. The automatic transaction apparatus according to Claim 1, wherein said control unit further comprises a browser for communicating with said host on the Web and  
5 exchanging the control signals specified by the interface between said I/O control layer and said host.

7. The automatic transaction apparatus according to Claim 1, wherein said I/O control layer logicalizes the reply  
10 from said I/O unit and replies it to said host.

8. The automatic transaction apparatus according to Claim 7, wherein said I/O unit is an I/O unit for handling a medium,  
15 and said I/O control layer logicalizes the reply regarding said medium from said I/O unit, and replies it to said host.

9. An automatic transaction control method of an  
20 automatic transaction apparatus for communication with a host and performing transaction operation according to the operation of a customer, comprising steps of:  
receiving transaction signals specified by an interface with said host;  
25 controlling a plurality of I/O units for performing said transaction operation using a middleware layer based on said transaction control signals; and

referring to a parameter file for storing  
parameters for converting the transaction control signals  
specified by the interface with said host into transaction  
control signals specific to said middleware, converting the  
5 transaction control signals sent from said host into the  
transaction control signals specific to said middleware layer,  
and operating said middleware layer.

10. The automatic transaction control method according  
10 to Claim 9, wherein said operating step further comprises  
steps of:

calling up an I/O control library from a plurality  
of I/O control libraries corresponding to each of said  
plurality of I/O units according to the transaction control  
15 signals from said host;

reading parameters corresponding to said I/O  
control library from said parameter file; and

editing the transaction control signals specific to  
said middleware layer by using the parameters, and operating  
20 said middleware layer.

11. The automatic transaction control method according  
to Claim 9, wherein said control step further comprises a  
step of controlling said I/O unit by said middleware layer  
25 having an I/O client layer for intermediating the transaction  
control signals to said I/O unit, an I/O server layer for  
starting and ending the I/O operation and controlling the

communication protocol by the transaction control signals of said I/O client layer, and an I/O service provider layer for converting messages with each of said I/O units.

5           12. The automatic transaction control method according to Claim 9, wherein said control step comprises a step of controlling a plurality of I/O units that perform cash transactions based on said operation of the customer.

10           13. The automatic transaction control method according to Claim 12, further comprising a step of returning the operation result of said I/O unit according to the transaction control signals from said host, which follows the cash transaction sequence specified by said customer, to said  
15 host as a reply.

          14. The automatic transaction control method according to Claim 9, wherein said receiving step comprises a step of communicating with said host on the Web and exchanging the  
20 control signals specified by the interface with said host.

          15. The automatic transaction control method according to Claim 9, further comprising a step of logicalizing the reply from said I/O unit, and replying it to said host.  
25

          16. The automatic transaction control method according to Claim 15, wherein said reply step comprises a step of

logicalizing the reply regarding said medium from the I/O unit handling the medium, and replying it to said host.

17.A control program of an automatic transaction apparatus for communicating with a host and performing a transaction operation according to the operation of a customer, for having said automatic transaction apparatus perform steps of:

receiving transaction control signals specified by an interface with said host; and referring to a parameter file which store parameters for converting the transaction control signals specified by the interface with said host into transaction control signals specific to a middleware layer for controlling a plurality of I/O units for performing said transaction operation, converting the transaction control signals sent from said host into the transaction control signals unique to said middleware layer, and operating said middleware layer.

18. The control program according to Claim 17, for further having said automatic transaction apparatus perform a step of logicalizing the reply from said I/O unit, and replying this to said host.